



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

March 31, 2022

Turan Kayagil, MD, FACEP
Medical Officer

A. ACCIDENT INFORMATION

Identification: CEN21FA024

Location: Ford Heights, Illinois

Date: October 20, 2020

B. GROUP IDENTIFICATION

No group was formed for the medical evaluation in this accident.

C. DETAILS OF INVESTIGATION

1. Purpose

This investigation was performed to evaluate the pilot for medical conditions, the use of medications/illicit drugs, and the presence of toxins.

2. Methods

The Federal Aviation Administration (FAA) medical case review and selected post-accident medical records were reviewed. The pilot's autopsy and toxicology reports were reviewed. Investigator reports and relevant regulation and medical literature were also reviewed.

3. Findings

a. Medical Case Review

According to the FAA medical case review, the 70-year-old male pilot had his last aviation medical examination on January 22, 2020. At that time, he reported 951 total civilian flight hours. He was 71 inches tall and weighed 204 pounds. He reported a history of high blood pressure, for which he was qualified under Conditions Aviation Medical Examiners Can Issue (CACI) criteria, and enlarged prostate. He reported using amlodipine, a prescription blood pressure medication, tamsulosin, a prescription medication that treats symptoms of

enlarged prostate, and finasteride, a prescription medication that can be used to treat an enlarged prostate or male pattern baldness. Those medications generally are not considered impairing. No significant issues were identified, and the pilot was issued a third-class medical certificate limited by a requirement to wear corrective lenses.

b. Post-Accident Medical Records

According to reviewed air ambulance and hospital records, the pilot was awake and alert when extricated by first responders, but experienced cardiac arrest during transport to the hospital. Resuscitation efforts were unsuccessful.

c. Autopsy

The Office of the Medical Examiner of Cook County performed the pilot's autopsy. According to the autopsy report, the cause of death was multiple blunt force injuries, and the manner of death was accident. The autopsy did not identify significant natural disease.

d. Toxicology

At the request of the Office of the Medical Examiner, NMS Labs performed toxicology testing on postmortem blood from the pilot. No tested-for substances were detected.¹

The FAA Forensic Sciences Laboratory also tested postmortem specimens from the pilot.² Amlodipine was detected in femoral blood and urine. Additionally, ketamine was detected at 422 nanograms per milliliter (ng/mL) in femoral blood and 162 ng/mL in urine, and the ketamine metabolite norketamine was detected at 25 ng/mL in femoral blood.

e. Descriptions of Detected Substances

Ketamine is a drug that may be administered in a healthcare setting to produce sedation and anesthesia.³ It may also be used illicitly for its psychoactive effects.⁴ Norketamine is a metabolite of ketamine. Reviewed post-accident medical records documented that the pilot was administered ketamine during his post-crash medical care.

¹ Tested-for substances were listed as: amphetamines, barbiturates, benzodiazepines, buprenorphine/metabolite, cannabinoids, cocaine/metabolites, fentanyl/acetyl fentanyl, methadone/metabolite, methamphetamine/MDMA, opiates, oxycodone/oxymorphone, phencyclidine, acetone, ethanol, isopropanol, and methanol.

² The FAA Forensic Sciences Laboratory tests specimens for over 1,300 substances including toxins, prescription and over-the-counter medications, and illicit drugs.

³ National Institutes of Health National Library of Medicine. Ketamine hydrochloride. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=f8b01c77-620d-4734-a771-b8524b65bcca>. Updated May 27, 2021. Accessed March 31, 2022.

⁴ Drug Enforcement Administration. Ketamine. Drug Fact Sheets. <https://www.dea.gov/factsheets/ketamine>. Updated June 15, 2020. Accessed March 31, 2022.

D. SUMMARY OF MEDICAL FINDINGS

The 70-year-old male pilot had his last aviation medical examination on January 22, 2020. At that time, he reported a history of high blood pressure, for which he was qualified under Conditions Aviation Medical Examiners Can Issue (CACI) criteria, and enlarged prostate. He reported using the medications amlodipine, tamsulosin, and finasteride, which generally are not considered impairing. No significant issues were identified, and he was issued a third-class medical certificate limited by a requirement to wear corrective lenses.

The pilot experienced cardiac arrest during transport to the hospital after the crash. Resuscitation efforts were unsuccessful. The Office of the Medical Examiner of Cook County performed the pilot's autopsy. According to the autopsy report, the cause of death was multiple blunt force injuries. The autopsy did not identify significant natural disease.

Postmortem toxicology detected amlodipine and ketamine in the pilot's blood and urine, and the ketamine metabolite norketamine in his blood. According to reviewed records, ketamine was administered to the pilot during his post-crash medical care.